Field Report – *Ex-USS Kittiwake (ASR-13)*
October 29, 2010
Colonna's Shipyard, Norfolk, VA

Participants

Cayman Islands
Nancy Easterbrook (Divetech) – Project Manager
Jay Easterbrook (Divetech)
Frank Skinner (Marine Surveyor)

Colonna's Shipyard
Frank Rife (Supervisor)

DMG
Tim Mullane

EPA
Laura Johnson – OCPD
Laura Casey – ORCR

Discovery Channel Representatives

Purpose – The purpose of the site walk was to meet with representatives from the Cayman Islands and their remediation contractors and conduct a final project walk through while in dry-dock.

Background – In 2003, the Cayman Islands began the process to take title of the Kittiwake from MARAD. The Kittiwake was transferred to the James River Reserve Fleet in the late 1990s by the US Navy. In January 2010, MARAD completed the title transfer process to the Cayman Islands Government. The vessel was then towed from the James River to Dominion Marine Group, Norfolk, VA where it will be remediated and prepared for sinking as an artificial reef off of Grand Cayman Island. The projected sink date is July 6, 2010.

The Kittiwake is a Chanticleer Class Submarine Rescue Vessel built and commissioned in 1944. Dimensions are as follows –

Length – 251" 4"
Beam – 42'
Draft – 16'
Displacement – 2,045 tons (full load)
Propulsion – Diesel-Electric, single screw, 3000 h.p.

Weather – Weather was clear and sunny, gusty winds and temperatures in the mid to high 50s.

PPE - Level D was worn by EPA personnel. Level D for this specific site consisted of hard hats equipped with head lamps, leather or latex gloves, safety glasses and steel-toed boots. In addition, EPA carried flashlights and batteries (including spares), small hand tools such as Leatherman multi-purpose tools, notebooks, pens and cameras.

Vessel Condition – The Kittiwake was laid up in dry-dock for hull cleaning and the removal of the sonar transducer and the remaining 11 sea cocks and sea chests. The masts and superstructure above the bridge have been removed for sinking. The hull is in excellent condition with no apparent weak spots. Even though the ship had been sealed while waiting dry-dock space, there was still standing water in various places around the ship. This water was the result of raining water entering the ship and not due to the ship taking on water.

The ship has also been outfitted with a flood alarm system for the tow to Grand Cayman Island. Pumps and generators will be installed prior to departing the US.

Vessel Walk Through – EPA arrived on site at approximately 9:00 am. After donning safety equipment, EPA entered the dry-dock with Nancy Easterbrook and Frank Rife at about 9:25 am. Entry to the dry dock was over a series of ramps and gangways. The ship was sitting upright on wooden blocks roughly 4 ft off the deck of the dry-dock. One could walk under the ship while standing upright and pass completely under the keel while bent over.

Dry-dock Review

- Hull Cleaning - The hull of the Kittiwake had to be cleaned of growth to prevent the possible import of invasive species into Grand Cayman. The growth consisted of animal and plant life such barnacles, oysters and seaweeds.

The hull was cleaned using water blasting (5000 psi) followed by hand scraping. The hull was cleaned to 1 foot above the waterline. Strainers covering the inlets for the sea cocks and sea chests were removed in order to clean the inlets. Frank Rife of Colonna's indicates approximately 8 cu. yds. of hull debris had been removed.

EPA walked around the ship from bow to stern and back and under the keel. Viewing the hull up close showed pock marks and pits from the water blasting but very little growth remained and that would be removed by hand scraping. There was some growth found in a couple of the inlets for sea cocks and sea chests and that was or will be removed by hand scraping. There were some areas of the hull that neither the water blaster nor hand scraping could reach namely the spaces between the blocks and the hull. Discussions with Mr. Rife indicated that this growth should not be a problem as the dead weight of the ship (approximately 16,000 tons) would crush any growth and exposure to air would also kill off growth since the ship had been out of water for almost 48 hours. Mr. Rife also indicated that the any remaining growth would be knocked off during the re-entry into the water.

Sonar Transducer and Sea Cock/Sea Chest Removal – In addition to observing the hull cleaning, EPA also observed the removal and blanking of the remaining 11 sea cocks and sea chests and reviewed the removal of the sonar transducer.

The sea cocks and sea chests are through-hull valves fitted with rubber gaskets suspected to contain regulated levels of PCBs. The valves were removed from inside the vessel and the openings were sealed or "blanked" using new rubber gaskets cut onsite and metal

plates. The seam between the outer hull and the new rubber gaskets was sealed with silicone sealant. There were still a few valves being removed while EPA was onsite.

The sonar transducer was another "through hull" item needing removal. It needed to be removed for the vessel to rest properly on the bottom after sinking. On past site walks EPA had noticed approximately 8 cables in the sonar room passing through to the transducer. These cables would be removed when the transducer was removed in dry-dock. Transducer was torch cut from the keel and a steel plate was welded in its place. Once the transducer was removed and the cables pulled through the hull, it was discovered that the cables were actually 8 – 10 ft long rather than 6 inches or less that EPA originally estimated from inside the ship. The cables were coiled inside the transducer. The cables were removed and disposed of as PCB Bulk Product Waste. A second transducer was also found on the hull and removed but did not contain any cables.

Departed dry-dock at 10:05 am

Onboard Progress Review - After completing the outer hull and sea cock/sea chest review, EPA boarded the ship to review work taking place on and inside the vessel. There was still work-related equipment and debris onboard. Nancy Easterbrook informed EPA that this would be ongoing until there was no more access to the ship. There will be a final sweep for debris and equipment prior to departing the US and once again after arriving in Grand Cayman.

EPA selected several areas of the ship that on previous visits still had work to be done or was in the process of being completed. These areas were:

Forward Winches (Main Deck)
Engine Room/Machine Spaces
Crews' Berthing
Searchlights (stowed onboard for transit to Grand Cayman)
Aft Steering Gear Room
Shaft Alley
Compressor Room
Radio Room/Telemetry Room
Bridge/Navigation

Boarding the ship was via a series of ladders up 22 ft to a catwalk and across a gangway to the Main Deck. Boarding took place at 10:15 am.

Main Deck

- Forward Winches – EPA chose to revisit the winches as they were weeping fluid presumably hydraulic or lubricating oil during the June 2010 visit. The center winch was still weeping and Nancy Easterbrook was advised to clean it and keep an eye on it.
-Anchor Chains – Some of the anchor chains are onboard have been pressure washed. They will receive a final rinsing before departing for the Grand Cayman.
- Mess/Galley – This area is being used as a staging area for work crews and for the crews removing and blanking the sea cocks/sea chests. The new rubber gaskets are being measured and cut in this area.

Engine Room/Machine Spaces

- Reduction Gear Room – Removal of sea cocks and sea chests was still in progress. The valves were being torch cut out and replaced with new rubber gaskets and steel blanks and sealed with silicone sealant. During EPA's June 2010 visit, this room was still covered in a film of oil and had standing oil in the bilges. Since then this room has been remediated and steam cleaned to remove all residual and standing oils.

- Engine Room – As with the Reduction gear Room, the removal of the sea cocks/sea chests was still in progress. During EPA's June 2010 visit, the engine room was still undergoing remediation and most surfaces were covered with a film of oil. Since then the Engine steamed cleaned 3 times to remove residual oils.

Crews' Berthing Area

- Bunks – Crews bunks have been cleaned of debris and welded into place. One set of bunks still had 2 cables attached and they were removed on site.

Searchlights – The searchlights are staying onboard and will be used for display on Grand Cayman. In June the searchlights had not been cleaned of cables, wires and small motors/electronics. Since then they have been gutted and cleaned.

Aft Steering Gear Room –

- Rudder – During EPA's June visit parts of the Aft Steering Gear Room where still being remediated and had quite a bit of insulation and steel caging still in place. During this visit the steel caging and insulation had been removed and access to the rudder was improved. Closer viewing of the rudder mechanism revealed a coating of oil on the rudder and a sight glass indicating fluid remained in a reservoir. EPA recommended cleaning the rudder and draining the reservoir. EPA also recommended to Nancy Easterbrook that workers keep an eye on the rudder and the reservoir for possible weeping or residual draining and clean as needed.

Shaft Alley – In June, EPA noticed drips of oil running down a bulkhead separating a storage locker from Shaft Alley. The oil was from draining reservoirs in Shaft Alley. This bulkhead was wiped down and cleaned and EPA saw no evidence of oil remaining.

Compressor Room – All gauge face plates have been removed and sea cocks have been removed and blanked.

Radio Room/Telemetry Room – All small pieces of cables/wires and insulation have been removed. Safes were removed in order removed some larger chunks of insulation. A small wire was found in an empty electronic box near the floor in the radio room. The electronic box was removed.

Bridge/Navigation

- Dead Reckoning Table – In June this piece of equipment was full of small pieces of electronic equipment and small wires. All have been removed.

- All other pieces of electrical equipment have been either gutted or removed.

Depart Ship at 12:35 pm
Depart Dry-dock at 12:45 pm
Depart Colonna's Shipyard at 1:05 pm